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Via Electronic Filing

February 20, 2015

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street SW
Washington, D.C. 20554

Re: *Ex parte* presentation in GN Docket No. 14-28

Dear Ms. Dortch:

On February 19, 2015, Reed Hundt and the undersigned, counsel to Adaptive Spectrum and Signal Alignment, Inc. (ASSIA), met with Daniel Alvarez, Legal Advisor to Chairman Wheeler; Gigi Sohn, Special Counsel to the Chairman for External Affairs; and Eric Feigenbaum, Director of Outreach and Strategy, Office of Media Relations. The parties discussed the role that free, easily-accessible tools such as ASSIA's Internet diagnostic and optimization application, Cloudcheck, can play in empowering consumers to ensure broadband transparency and compliance with the Commission's forthcoming Open Internet rules. On February 18, the undersigned had a similar conversation with Matt DelNero with the Wireline Competition Bureau.

The parties explained that free applications can help consumers determine if they are receiving broadband service that matches the broadband offering they purchased. Some apps, such as Cloudcheck can help consumers identify which portion of their connection is slowest and thereby help consumers identify whether the problem is in their home or with their broadband provider. The parties said that in addition to Cloudcheck, consumers could select other Internet diagnostic applications such as speedtest.net by Ookla, speedof.me, and testMy.net. The features and capabilities of each of these applications differ, but they can all help consumers identify whether a broadband provider is delivering service that is consistent with what a consumer has paid for. The parties also shared the attached description of the service and a list of other app providers.

The parties identified three specific benefits of this type of tool. First, it will help consumers confirm that they are receiving the bandwidth they have purchased and also will put consumers in a better position to address Internet connectivity problems efficiently, independently, and more cost effectively. Consumers could therefore likely resolve many issues with their ISPs without engaging in the Commission's formal complaint procedures. Second, it benefits broadband providers, since these tools will reduce the likelihood that connectivity problems are inaccurately attributed to the providers. Third, these tools benefit the Commission

because they act to conserve agency resources by enabling many issues to be resolved without the filing of a complaint. These tools thus work to the advantage of all who have a stake in ensuring transparency and compliance with the Commission's rules.

Please direct any questions regarding this matter to the undersigned.

Sincerely,

Gerard J. Waldron

Gerard J. Waldron
Counsel to ASSIA

cc: Daniel Alvarez
Gigi Sohn
Eric Feigenbaum
Matt DelNero
Louis Peraertz
Priscilla Delgado Argeris

ASSIA Cloudcheck® - A Comparison to Conventional Internet Speed Test Tools and a Proposal to the FCC

December 10, 2014

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Abstract

This note provides a comparison of ASSIA's Cloudcheck® internet diagnostic and optimization app/tool with more traditional "speed-test" type diagnostics. This comparison was requested at the conclusion of some late October meetings between ASSIA CEO J. Cioffi and John Leibovitz, special counsel to FCC chairman and others. Specifically illustrated are the advantages of Cloudcheck in assessing fair internet connectivity to different content/application sources. Cloudcheck's optional optimization of poorly performing connections is also mentioned. The action requested is that the FCC and ASSIA work to promote the use of Cloudcheck for better understanding of fair internet connectivity.

Introduction

Within the modern Internet economy various tools exist to help provide insight in to Internet connection performance. Generally speaking these tools are referred to as "Speed Tests." And these tests provide a variety of performance metrics (ping, latency, jitter, etc.) the most referenced and ubiquitous being the upload and download speed of an Internet connection. The most used tool by consumers is http://www.speedtest.net by Ookla/Ziff-Davis Publishing (http://www.ookla.com). Ookla provides a web browser based tool as well as variants of the tool for iOS and Android smart phones/tablets. Ookla also offers a "cobranded" version of their tool, which is used by Internet service providers such as AT&T, Comcast and even the FCC (offered as a "mobile broadband measurement tool" called "FCC Speed Test" as part of the Measuring Broadband America initiative). In addition to Ookla's Speed Test product there are similar web browser tools (some having mobile iOS and/or Android extensions) including:

Testmy.net
Speedof.me
Myspeed.visualware.com
Bandwidthplace.com
Ping-test.com

The Competition

The current landscape of speed test tools listed above allows users to test a single device connection (a PC/laptop, iPhone/iPad, Android smart phone/tablet) to a nearest geographical test server node typically within the users Internet service provider. These tools primarily report a single upload and download speed and some of the tools also provide comparative metrics for alternate service providers, speeds of alternate users within a similar geography, at similar times, etc. all of which attempt to help the user understand how their results compare to others and other networks.

The ASSIA Cloudcheck "Speed Test"

ASSIA's Cloudcheck product was born from a desire to tell the consumer user where the "bottle neck"/slowest link in their connection is and then where possible offer the user a "fix"/improvement. The conventional speed test metrics while marginally useful don't tell the user specifically what is going on with the segments of their internet connectivity experience nor are they related to connectivity elements beyond the service provider network, e.g. peering networks, content CDN's, etc., all of which are relevant to a user experience that is highly contextual.

In this context Cloudcheck provides the consumer with three speed measurements:

1. Their download speed from a relevant (defined by the user inputting a specific URL) content site
2. Their broadband/fixed line speed (upload and download to multiple Cloudcheck owned out of service provider network test servers around the world)
3. Their wireless speed (either Wi-Fi or mobile 3G/4G/LTE depending upon the physical connection during the session)

Figure #1 compares the mobile app speed test results for ASSIA's Cloudcheck to Ookla's Speedtest

Figure #1 – Cloudcheck and SpeedTest mobile test results

By having each of these three relevant measurements the user can now assess which of the connection segments is slowest and thus acting as the "bottle neck" in their connectivity experience.

In addition to these test results Cloudcheck also offers the user monitoring and optimization services for fixed line xDSL, in home Wi-Fi and mobile Wi-Fi/3G/4G/LTE connections. In those situations where throughput performance can be improved and when Cloudcheck enabled hardware is present the user is given the option to opt in to monitoring/optimization services which from the cloud monitors 24 x 7 x 365 the user's home Wi-Fi router, xDSL and/or mobile Wi-Fi/3G/4G/LTE connection and continuously optimizes to insure maximal connectivity performance.

A Tool For Determining Net Neutrality

Cloudcheck's Broadband Test results combined with Content Test results can be used to infer service provider net neutrality violations. By encouraging users to install and use the Cloudcheck tool ASSIA can accumulate a statistical database of test results over time, geography, content provider and service provider that will allow reports to be provided to interested parties that would indicate either network traffic congestion issues or active service provider throttling and hence net neutrality violations.

As an example of the network neutrality reporting and analysis Cloudcheck can measure and report Figure #2 shows a Cloudcheck user in the San Francisco Bay Area. This user ran tests every hour on the hour for a period of 14 days. The download speed data in Figure #2 shows the average (over 14 days) test results of the Cloudcheck broadband measurement (orange) connected to the Cloudcheck Santa Clara CA test node server, the content measurement to the www.amazon.com west coast CDN (blue) and a comparative measurement using Ookla's speedtest.net tool (red). The service provider in this example is Comcast and between the hours of 5PM and 11PM PT speed performance rapidly diminishes and by as much as 40% at 9PMPT.

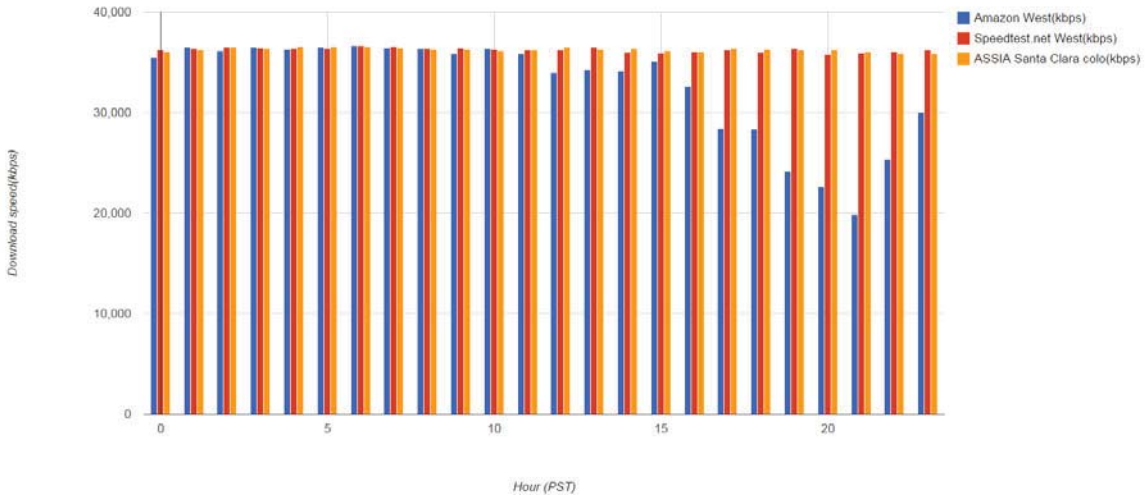

Figure #2 – Actual Cloudcheck Test Results on Comcast from Nov 1, 2014 to Nov 15, 2014

The identical test was run by another Cloudcheck user in the same city/state but this time connected to AT&T/U-Verse and the results were as shown in Figure #3.

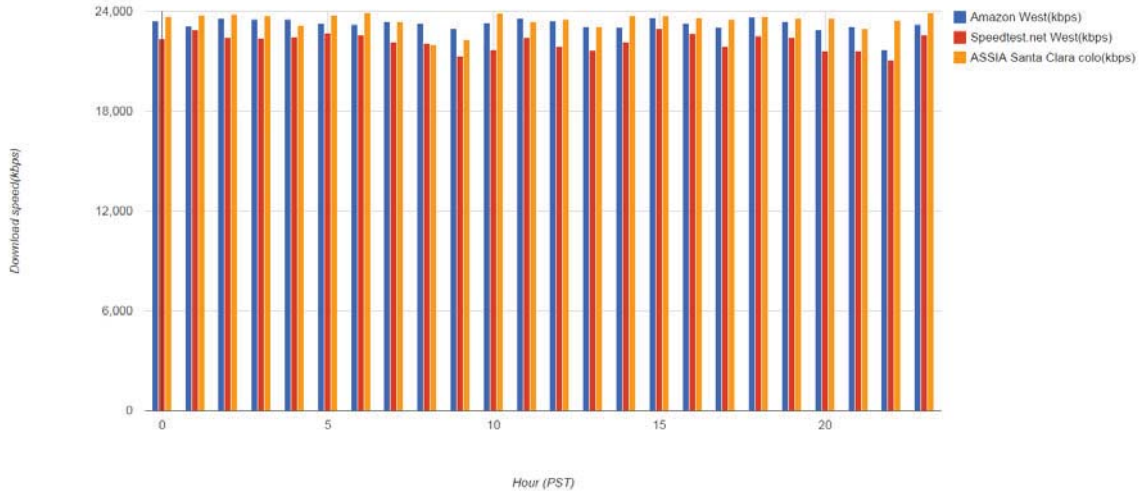

Figure #3 - Actual Cloudcheck Test Results on AT&T/U-Verse from Nov 1, 2014 to Nov 15, 2014

The results of these two graphs suggest that Comcast may be actively throttling traffic from www.amazon.com to San Francisco Bay Area subscribers during the hours of 5PM to 11PM PT while AT&T/U-Verse is not.

Summary and Proposal

Cloudcheck is much more than conventional "speed test" utilities. As a trusted third party utility with no motivation to obfuscate or mislead consumers Cloudcheck provides a tool and service to measure, monitor, improve and report to consumers and other interested parties on the performance of their internet connectivity experience and ascertain where is the "bottle neck." Additionally, with sufficient user test data, Cloudcheck can help determine if service providers are actively throttling a subscriber's connectivity experience.

ASSIA would propose that the FCC actively promote ASSIA's Cloudcheck utility to consumers as a trusted third party tool for Internet connectivity diagnostics, monitoring, and optimization and for determining net neutrality.